

three inches = one foot

one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot
11-10-15 01:10:32 PM bedwards

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot
J:\00 Projects J - R\W023 Miller-Remick\W023-08 VAMC Asheville ORs - Sprinkler Design\Wdg FX-001.dwg

FIRE SUPPRESSION PROJECT NOTES:

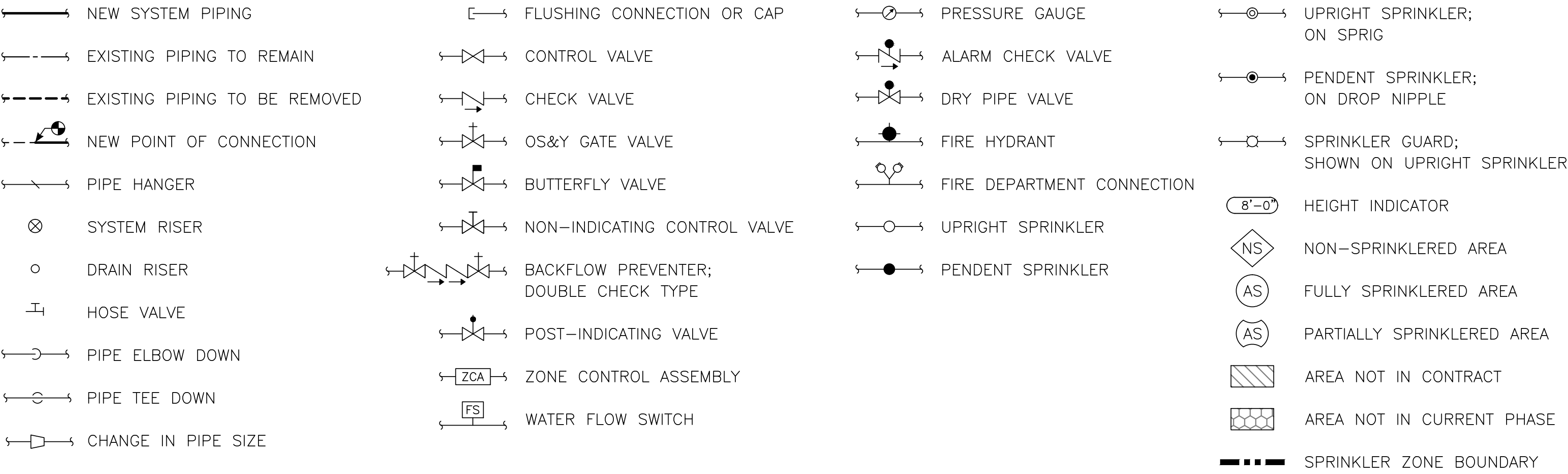
- MODIFY EXISTING SPRINKLER SYSTEM THROUGHOUT ALL NEW AND RENOVATED PROJECT AREAS OF BASEMENT, FLOORS 1 AND 2 OF BUILDING 47 AT THE CHARLES GEORGE VETERAN AFFAIRS (VA) MEDICAL CENTER IN ASHEVILLE, NORTH CAROLINA. UNLESS OTHERWISE NOTED, EXISTING SPRINKLERS, PIPING, AND FIRE PUMP ARE EXISTING TO REMAIN. EXISTING SYSTEM INFRASTRUCTURE IN CRAWL SPACE SHALL BE FIELD VERIFIED FOR HYDRAULIC CALCULATIONS.
- PROVIDE ALL NECESSARY MATERIALS AND LABOR TO FURNISH AND INSTALL THE SYSTEM AS DESCRIBED IN THE PROJECT SPECIFICATIONS AND CONTRACT DRAWINGS.
- ALL REFERENCE TO THE AUTHORITY HAVING JURISDICTION (AHJ) SHALL MEAN THE VHA CENTRAL OFFICE REGIONAL FIRE PROTECTION ENGINEER OR THE CEOSH FIRE PROTECTION ENGINEER.
- ALL REFERENCE TO THE ENGINEER SHALL MEAN KOFFEL ASSOCIATES, INC.
- ALL REFERENCE TO THE OWNER SHALL MEAN THE U.S. DEPARTMENT OF VETERAN AFFAIRS, SPECIFICALLY THE CONTRACTING OFFICER'S REPRESENTATIVE (COR).
- INSTALLATION OF SPRINKLER SYSTEM AND ASSOCIATED COMPONENTS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2013 EDITION
 - NFPA 101®, *LIFE SAFETY CODE®*, 2012 EDITION
 - VA FIRE PROTECTION DESIGN MANUAL (VAFPDM) 6TH EDITION, SEPTEMBER 2011
 - THE MANUFACTURER'S REQUIREMENTS
 - APPLICABLE STATE AND LOCAL CODES AND REGULATIONS
- THE FOLLOWING DESIGN CRITERIA APPLIES:
 - OFFICES, OPERATING ROOMS, CORRIDORS, AND REST ROOMS - LIGHT HAZARD: 0.10 GPM/SQ.FT OVER 1,500 SQ.FT
 - MECHANICAL ROOMS, ELECTRICAL ROOMS, AND DATA ROOMS - ORDINARY HAZARD GROUP 1: 0.15 GPM/SQ.FT OVER 1,500 SQ.FT
 - SOILED AND CLEAN UTILITY ROOMS, STORAGE ROOMS - ORDINARY HAZARD GROUP 2: 0.20 GPM/SQ.FT. OVER 1,500 SQ.FT.

PER SECTION 11.2.3.2.3.1 OF NFPA 13, A REDUCTION IN THE DESIGN AREA UP TO 40% IS PERMITTED WHERE LISTED QUICK-RESPONSE SPRINKLERS ARE UTILIZED.
- THE FOLLOWING WATER SUPPLY DATA IS PROVIDED:

STATIC PRESSURE: 180 PSI
RESIDUAL PRESSURE: 150 PSI
FLOW: 584 GPM
LOCATION: FIRE PUMP DISCHARGE FLANGE (REFER TO SHEETS FX502 AND FX503)
DATE OF TEST: MARCH 11, 2015
SOURCE: JAMES M. PLEASANTS CO., INC.
- ALL HYDRAULIC CALCULATIONS SHALL YIELD AT LEAST A 10 PERCENT SAFETY FACTOR FOR EACH SPRINKLER DESIGN AREA, INCLUDING REQUIRED HOSE STREAMS, PER SECTION 6.1D OF THE VAFPDM.

- SPRINKLER TYPES SHALL BE AS DESCRIBED IN THE PROJECT SPECIFICATIONS.
- SPRINKLERS SHALL BE LOCATED IN SUSPENDED CEILING TILES AS INDICATED ON DETAIL 1/ FX501. ARMOVERS AND DROPS TO INDIVIDUAL SPRINKLERS SHALL BE FIELD CUT TO ENSURE PROPER SPRINKLER PLACEMENT.
- SPRINKLER PIPE SHALL MEET THE FOLLOWING CRITERIA:
 - PIPE SIZES 2" AND SMALLER: SCHEDULE 40, BLACK STEEL, MEETING ASTM A53 (TYPE E GRADE B) OR A795 (TYPE E GRADE A) SPECIFICATIONS, CONNECTED WITH THREADED FITTINGS.
 - PIPE SIZES 2-1/2" AND LARGER: SCHEDULE 10, BLACK STEEL, MEETING ASTM A135 OR A795 TYPE E GRADE A SPECIFICATIONS, CONNECTED WITH LISTED GROOVED COUPLINGS.
- PIPE FITTINGS SHALL INCLUDE:
 - THREADED FITTINGS FOR SCHEDULE 40 PIPE SHALL CONFORM TO SECTION 6.4 OF NFPA 13.
 - ROLL GROOVED FITTINGS FOR SCHEDULE 10 PIPE SHALL BE UL LISTED. COUPLINGS SHALL COMPLY WITH ASTM A536, AND A183 SPECIFICATIONS WITH GRADE E, TYPE A GASKETS. ALL COMPONENTS SHALL BE FROM A SINGLE MANUFACTURER.
- ALL MATERIALS SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. (U.L.) FOR USE ON COMMERCIAL FIRE PROTECTION SYSTEMS. NOTE THAT SPRINKLERS SHALL ALSO BE FACTORY MUTUAL (FM) APPROVED, PER SECTION 6.1K OF THE VAFPDM.
- ALL NECESSARY CONNECTIONS TO THE FIRE ALARM SYSTEM SHALL BE MADE BY AND COORDINATED WITH THE FIRE ALARM CONTRACTOR. SYSTEM ACCEPTANCE TESTS SHALL BE CONDUCTED BY THE FIRE ALARM CONTRACTOR AND WITNESSED BY THE OWNER.
- ALL HANGERS SHALL BE U.L. LISTED FOR USE WITH SPRINKLER SYSTEMS. HANGER INSTALLATION AND SPACING SHALL BE IN ACCORDANCE WITH NFPA 13.
- ALL SPRINKLER SYSTEM PIPING AND HANGERS SHALL BE CONCEALED WHEREVER POSSIBLE. PROVIDE ACCESS PANELS FOR ALL VALVES, WHERE REQUIRED.
- PENETRATION OF FIRE-RATED ASSEMBLIES SHALL BE SEALED WITH A U.L. CERTIFIED THROUGH-PENETRATION SYSTEM APPROPRIATE FOR THE RATING OF THE WALL PENETRATED. REFER TO SHEETS LS102.1 and LS102.2 FOR WALL RATINGS.
- ALL CONTRACTORS PREPARING BIDS FOR THE PROJECT ARE EXPECTED TO VISIT THE SITE PRIOR TO SUBMITTING BIDS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPMENT OF SHOP DRAWINGS, HYDRAULIC CALCULATIONS, PERMIT FEES, APPROVAL OF SHOP DRAWINGS, AND ACCEPTANCE OF THE SYSTEM BY THE AHJ.
- PRIOR TO SUBMITTING AN APPLICATION FOR SPRINKLER PERMIT TO THE AHJ, PROVIDE TWO COPIES OF ALL SHOP DRAWINGS, HYDRAULIC CALCULATIONS, AND PRODUCT DATA SHEETS TO THE OWNER FOR REVIEW AND COMMENT. PERMIT APPLICATION SHALL NOT BE MADE UNTIL SUCH TIME THAT THE ENGINEER COMPLETED A REVIEW OF THE SHOP DRAWING PACKAGE.

FIRE SUPPRESSION SYMBOLS



FIRE SUPPRESSION ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	FHV	FIRE HOSE VALVE	POC	POINT OF CONNECTION
AFF	ABOVE FINISHED FLOOR	GYP	GYPSUM WALL BOARD (SHEETROCK)	QR	QUICK RESPONSE (SPRINKLER)
BFP	BACKFLOW PREVENTER	HT	HIGH TEMPERATURE (SPRINKLER)	STL	STEEL
COL	COLUMN	ITC	INSPECTORS TEST CONNECTION	TYP	TYPICAL
CONC	CONCRETE	MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
DN	DOWN	MIN	MINIMUM		
EC	EXTENDED COVERAGE (SPRINKLER)	MT	METAL TILE		
ETR	EXISTING TO REMAIN	NIC	NOT IN CONTRACT		
EXP	EXPOSED (NO CEILING)	NS	NON-SPRINKLERED		
FDC	FIRE DEPARTMENT CONNECTION	NTS	NOT TO SCALE		

OWNER'S INFORMATION CERTIFICATE

NAME OF OWNER:
U.S. DEPARTMENT OF VETERAN AFFAIRS (VA)
FMC, BUILDING 15
1100 TUNNEL ROAD
ASHEVILLE, NC 28805

POC: CHARLIE PETERSON (COR)
PHONE: 828-298-7911 X3571

EXISTING OR PLANNED CONSTRUCTION IS:
☒ FIRE RESISTIVE OR NONCOMBUSTIBLE
☐ WOOD FRAME OR ORDINARY
(MASONRY WALLS WITH WOOD BEAMS)
☐ UNKNOWN

IS THE SYSTEM INSTALLATION INTENDED FOR ONE OF THE FOLLOWING SPECIAL OCCUPANCIES:

- YES NO
- | | | |
|--------------------------|-------------------------------------|---------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | AIRCRAFT HANGAR |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FIXED GUIDEWAY TRANSIT SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | RACE TRACK STABLE |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | MARINE TERMINAL, PIER, OR WHARF |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | AIRPORT TERMINAL |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | AIRCRAFT ENGINE TEST FACILITY |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | POWER PLANT |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | WATER-COOLING TOWER |

INDICATE WHETHER ANY OF THE FOLLOWING SPECIAL MATERIALS ARE INTENDED TO BE PRESENT:

- YES NO
- | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FLAMMABLE OR COMBUSTIBLE LIQUIDS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | AEROSOL PRODUCTS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | NITRATE FILM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | PYROXYLIN PLASTIC |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | COMPRESSED OR LIQUEFIED GAS CYLINDERS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | LIQUID OR SOLID OXIDIZERS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | ORGANIC PEROXIDE FORMULATIONS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | IDLE PALLETS |

INDICATE WHETHER THE PROTECTION IS INTENDED FOR ONE OF THE FOLLOWING SPECIALIZED OCCUPANCIES OR AREAS:

- YES NO
- | | | |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | SPRAY AREA OR MIXING ROOM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | SOLVENT EXTRACTION |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | LABORATORY USING CHEMICALS |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | OXYGEN-FUEL GAS SYSTEM FOR WELDING OR CUTTING |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | ACETYLENE CYLINDER CHARGING |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | PRODUCTION OR USE OF COMPRESSED OR LIQUEFIED GASES |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | COMMERCIAL COOKING OPERATION |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | CLASS A HYPERBARIC CHAMBER |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | CLEANROOM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | INCINERATOR WASTE HANDLING SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | LINEN HANDLING SYSTEM |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | WATER-COOLING TOWER |

YES NO
☐ ☒ WILL THERE BE ANY STORAGE OR PRODUCTS OVER 12 FT (3.5 M) IN HEIGHT?

YES NO
☐ ☒ WILL THERE BE ANY STORAGE OF PLASTIC, RUBBER, OR SIMILAR PRODUCTS OVER 5 FT (1.3 M) HIGH EXCEPT AS DESCRIBED ABOVE?

THIS FORM HAS BEEN COMPLETED BY KOFFEL ASSOCIATES ON BEHALF OF THE OWNER BASED ON INFORMATION PROVIDED BY THE OWNER AND HIS AGENTS.

I CERTIFY THAT I HAVE KNOWLEDGE OF THE INTENDED USE OF THE PROPERTY AND THAT THE ABOVE INFORMATION IS CORRECT.

Mark Bushman
SIGNATURE OF OWNER'S REPRESENTATIVE OR AGENT
DATE: NOVEMBER 18, 2015

KOFFEL ASSOCIATES, INC.
NAME OF OWNER'S REPRESENTATIVE OR AGENT
COMPLETING CERTIFICATE

CONSULTING ENGINEER
RELATIONSHIP AND FIRM OF AGENT

BID DOCUMENTS
FULLY SPRINKLERED

			CONSULTANTS:		MILLER-REMICK LLC PROFESSIONAL ENGINEER		ARCHITECT / ENGINEERS:		Drawing Title FIRE SUPPRESSION NOTES, SYMBOLS, AND ABBREVIATIONS		Project Title RENOVATE AND EXPAND OPERATING ROOMS		Project Number 637-315		Office of Construction and Facilities Management			
			 TTE ENVIRONMENTAL, INC. 1253 NORTH CHURCH STREET MOORESTOWN, NJ 08657		 KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21045 410-750-2286 (BALT) 410-750-2588 (FAX) KA PROJECT NUMBER: M023-08		 M.E.P. & Structural Engineering A Service Disabled/Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856) 429-4000 FAX: (856) 429-5002		 PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS Worl Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23510 Phone: 757-471-6537 Fax: 757-471-4025 www.gfa-architect.com		Approved: Medical Center Director		Location CHARLES GEORGE VAMC ASHEVILLE, NC				Project Number Building Number 47	
											Date 11-18-2015		Checked MHB		Drawn BWE		Drawing Number FX001	



1. UNO, EXISTING SPRINKLER/STANDPIPE INFRASTRUCTURE SHALL REMAIN.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE ROUTING THROUGHOUT CRAWL SPACE AS NECESSARY TO PERFORM HYDRAULIC CALCULATIONS. ACCESS DURING ENGINEER'S SURVEY WAS LIMITED.

- 1 6" UP.
- 2 EXISTING 2 x 2 $\frac{1}{2}$ " FDC TO REMAIN.
- 3 6" FROM BASEMENT. REFER TO FX10B FOR CONTINUATION.
- 4 4" UP.
- 5 TO AMBULATORY CARE BUILDING.

CONSULTANTS:



TTI ENVIRONMENTAL, INC.
1205 NORTH CHURCH STREET
MOORESTOWN, NJ 08057



KOFFEL
ASSOCIATES
8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21045
410-750-0285 (USA) 410-750-0285 (FAX)
K/A PROJECT NUMBER: 16023-03



FIRE PROTECTION
ENGINEERS®

ARCHITECT / ENGINEERS:

Miller-Remick LLC
 A E.P. & Structural Engineering
 A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
 CHERRY HILL, NEW JERSEY 08034
 PHONE: (856)228-4000
 FAX: (856)229-5002

SDVOB
 SERVICE DISABLED
 VETERAN OWNED
 BUSINESS
 C-V-E

PF&A

PF&A DESIGN
 ARCHITECTURE, PLANNING, INTERIORS
 World Trade Center
 101 West Main Street, Suite 7000
 Norfolk, VA 23510
 Phone: 757-471-0537
 Fax: 757-471-4205
www.pf-and-a.com

Project Title			
RENOVATE AND EXPAND OPERATING ROOMS			
Location			
CHARLES GEORGE VAMC ASHEVILLE, NC			
Date	Checked		Drawn
11-18-2015	MHB		BWE

Office of
Construction
and Facilities
Management

 **Department of
Veterans Affairs**

Office of
Construction
and Facilities
Management





EXISTING SPRINKLER ZONE 14

EXISTING SPRINKLER ZONE 15

GENERAL NOTES:

1. UNO, EXISTING SPRINKLER/STANDPIPE INFRASTRUCTURE SHALL REMAIN.

SHEET KEY NOTES:

- 1 EXISTING SPRINKLERS NEED TO BE RELOCATED NEAR STRUCTURAL COLUMNS TO BE REINFORCED WITHIN UNSHADED AREA. REFER TO SHEET S101.
- 2 EXISTING 4" STANDPIPE.
- 3 EXISTING 6" STANDPIPE RISER.
- 4 EXISTING SPRINKLER PIPING AND HANGERS ABOVE THE CEILING SHALL BE TEMPORARILY REMOVED AND RE-INSTALLED UPON INSTALLATION OF NEW STRUCTURAL BEAMS AND PRIOR TO INSTALLATION OF NEW CEILINGS. EXISTING STRUCTURAL FRAMING TO THE RIGHT OF COLUMN LINE 17 SHALL REMAIN. NEW STRUCTURAL STEEL WILL BE PROVIDED TO FILL IN THE SKYLIGHT. COORDINATE WITH OTHER TRADES.

AMBULATORY CARE
ADDITION BUILDING

EXISTING SPRINKLER ZONE 18

EXISTING SPRINKLER ZONE 20

EXISTING SPRINKLER ZONE 16

EXISTING SPRINKLER ZONE 17

EXISTING SPRINKLER ZONE 19

1 FIRE SUPPRESSION - 1ST FLOOR PLAN
1/16" = 1'-0"

CONSULTANTS:

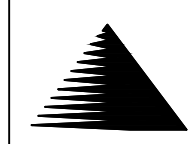


TTE ENVIRONMENTAL, INC.
1251 NORTH CHURCH STREET
MOORESTOWN, NJ 08057



MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ARCHITECT / ENGINEERS:



Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled/Veteran Owned
Small Business
1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856) 429-4000
FAX: (856) 429-5002



PF&A DESIGN
ARCHITECTURE, PLANNING, INTERIORS
World Trade Center
101 West Main Street, Suite 7000
Norfolk, VA 23510
Phone: 757-471-4037
Fax: 757-471-4035
www.gfa-architect.com

Drawing Title
**FIRE SUPPRESSION
1ST FLOOR PLAN**

Approved: Medical Center
Director

Project Title
**RENOVATE AND EXPAND
OPERATING ROOMS**

Location CHARLES GEORGE VAMC
ASHEVILLE, NC

Date
11-18-2015

Checked
MHB

Drawn
BWE

Project Number
637-315

Building Number
47

Drawing Number
FX101

BID DOCUMENTS
FULLY SPRINKLERED

Office of
Construction
and Facilities
Management



three eighths inch = one foot

one and one half inches = one foot

one inch = one foot

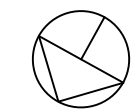
three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

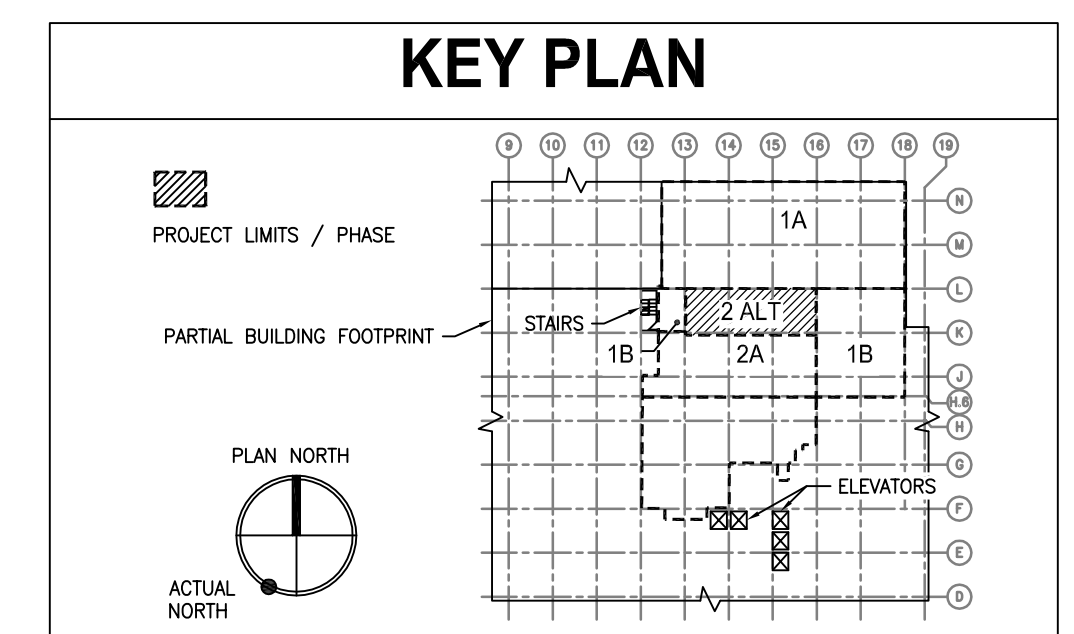


- 1 REFER TO SHEET FX102 FOR CONTINUATION.
- 2 REMOVE ALL SPRINKLERS AND PIPING IN CONNECTOR.
- 3 MAIN INSTALLED IN PHASE 1A REFER TO SHEET FX202.1A FOR CONTINUATION.
- 4 NEW ZONE CONTROL ASSEMBLY AND MAIN INSTALLED IN PHASE 1. REFER TO SHEET FX202.1A.
- 5 EXISTING 6" STANDPIPE.
- 6 CUT AND CAP EXISTING MAINS AND BRANCH LINES TO MATCH NEW ZONE BOUNDARY.
- 7 MODIFY EXISTING ZONE 2C FROM AMBULATORY CARE BUILDING AS NECESSARY TO MATCH NEW ZONE BOUNDARY.


**Department of
Veterans Affairs**VA FORM 08-6231

one eighth inch = one foot

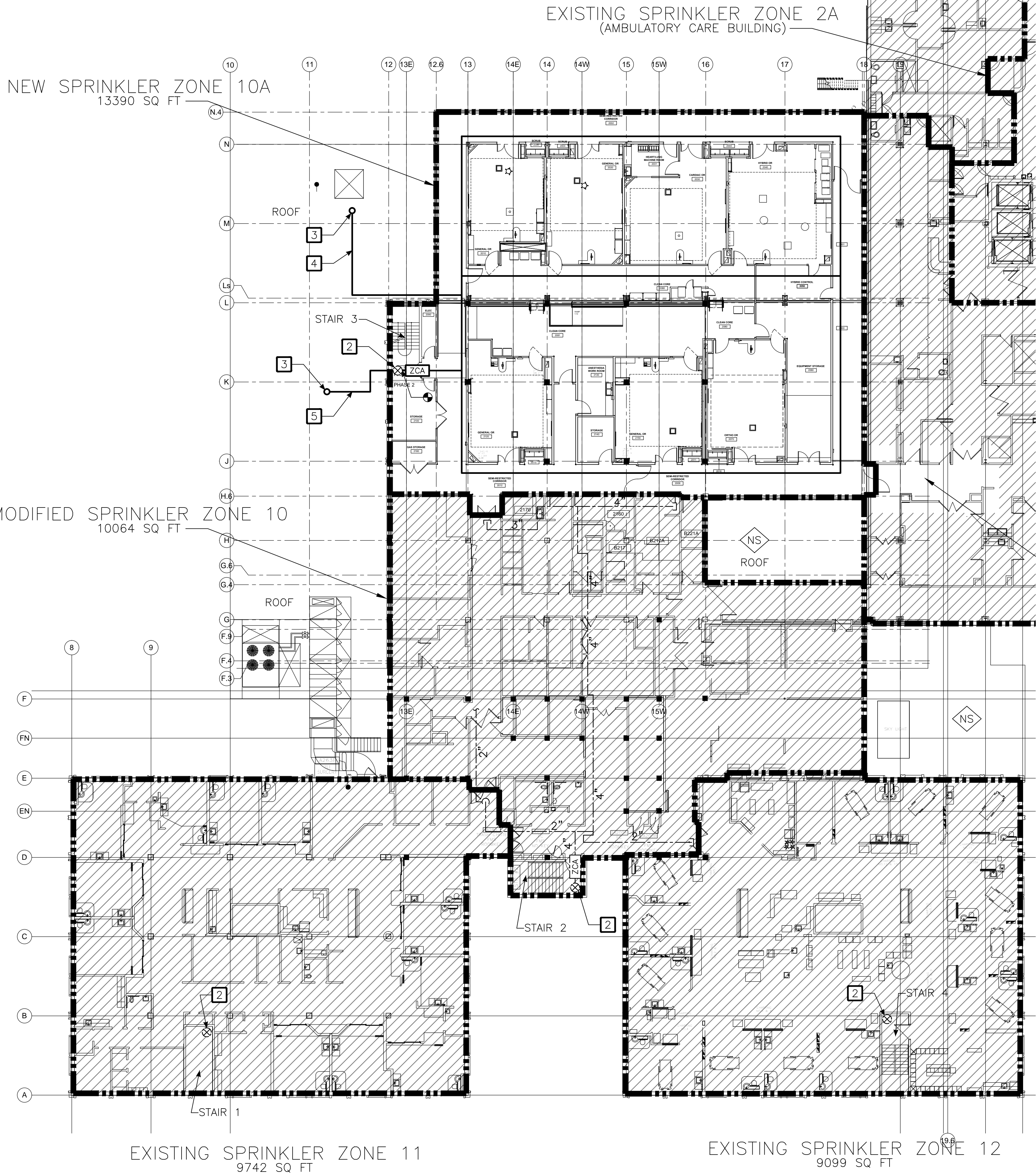
-
- Department of
Veterans Affairs**

VA FORM 08-6231

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

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J:\00 Projects - R\W023 Miller-Remick\W023-08 VAMC Asheville ORS - Sprinkler Design\DWG FX-201 (FX102).dwg

1 FIRE SUPPRESSION - 2ND FLOOR NEW WORK PLAN
1/16" = 1'-0"

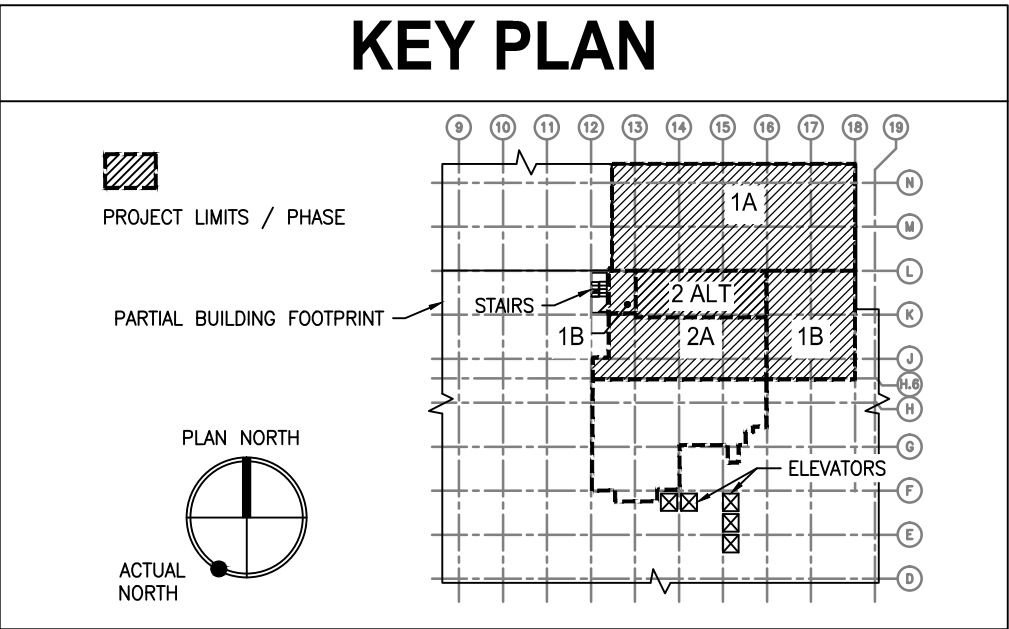


GENERAL NOTES:







1. UNO, EXISTING SPRINKLER/STANDPIPE INFRASTRUCTURE SHALL REMAIN.
2. SPRINKLER ZONES SHALL ALIGN WITH SMOKE ZONES. REFER TO SHEET LS102.2 FOR MORE INFORMATION.
3. REFER TO SHEETS FX202.1A THROUGH FX202.2 FOR PHASING PLANS.

SHEET KEY NOTES:

- 1 EXISTING 4" STANDPIPE.
- 2 EXISTING 6" STANDPIPE.
- 3 EXISTING ROOF DRAIN.
- 4 AUXILIARY DRAIN FOR ZONE 10A. SIZE DRAIN IN ACCORDANCE WITH SECTION 8.16.2.5 OF NFPA 13. ROUTE DRAIN LINE ALONG ROOF TO EXISTING ROOF DRAIN NEAR SKYLIGHT.
- 5 2" SECTIONAL DRAIN LINE FOR ZONE 10A. ROUTE DRAIN LINE ALONG ROOF TO EXISTING ROOF DRAIN.



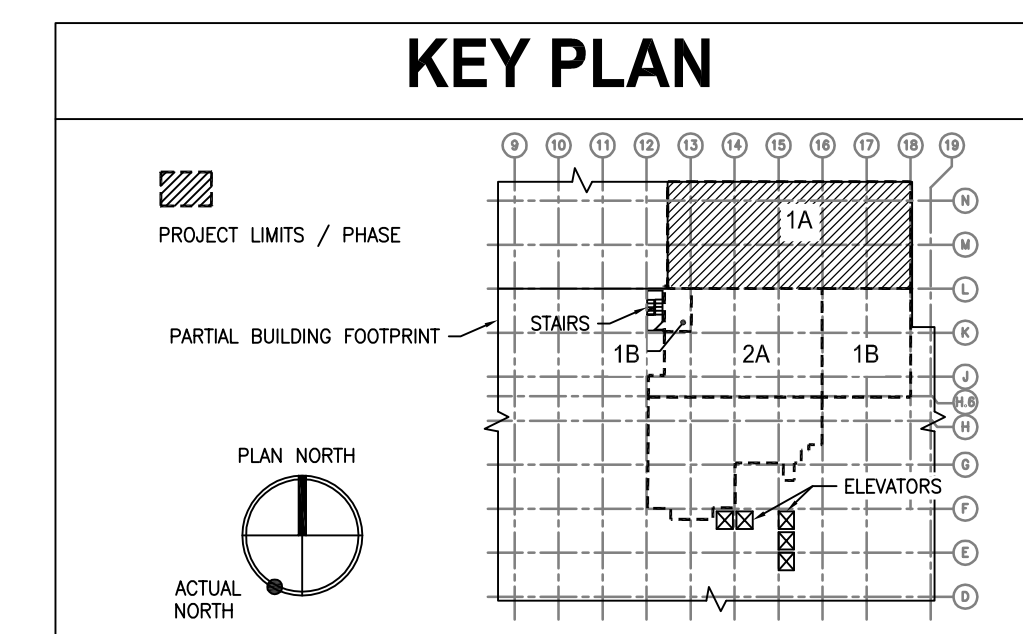
BID DOCUMENTS
FULLY SPRINKLERED

CONSULTANTS:			ARCHITECT / ENGINEERS:			Drawing Title FIRE SUPPRESSION 2ND FLOOR NEW WORK PLAN			Project Title RENOVATE AND EXPAND OPERATING ROOMS			Project Number 637-315		Office of Construction and Facilities Management  Department of Veterans Affairs				
 TTE ENVIRONMENTAL, INC. 1251 NORTH CHURCH STREET MOORESTOWN, NJ 08057			 Miller-Remick LLC M.E.P. & Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856) 429-4000 FAX: (856) 429-5002			 PFS&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23510 Phone: 757-471-4537 Fax: 757-471-4535 www.pfa-architect.com			Location: CHARLES GEORGE VAMC ASHEVILLE, NC			Building Number 47						
 KOFFEL Fire Protection ENGINEERS ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21045 410-750-2286 (BALT) 410-750-2598 (FAX) KA PROJECT NUMBER: M023-08			 SDVOB cVe						Drawing Number FX102			Date 11-18-2015			Checked MHB		Drawn BWE	
NO. DESCRIPTION DATE																		




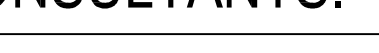
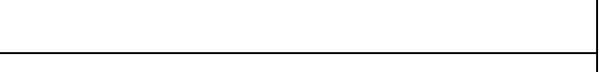

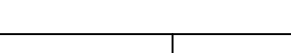

1. PROVIDE NEW SPRINKLERS, PIPING, AND ASSOCIATED COMPONENTS THROUGHOUT SPRINKLER ZONE 10A TO COINCIDE WITH SMOKE ZONE. REFER TO SHEET LS102.2 FOR MORE INFORMATION.
2. COORDINATE ROUTING OF ALL NEW SPRINKLER PIPE WITH OTHER TRADES. DO NOT BLOCK ACCESS TO EQUIPMENT LOCATED ABOVE THE CEILING WITHIN THE OR SUITE.

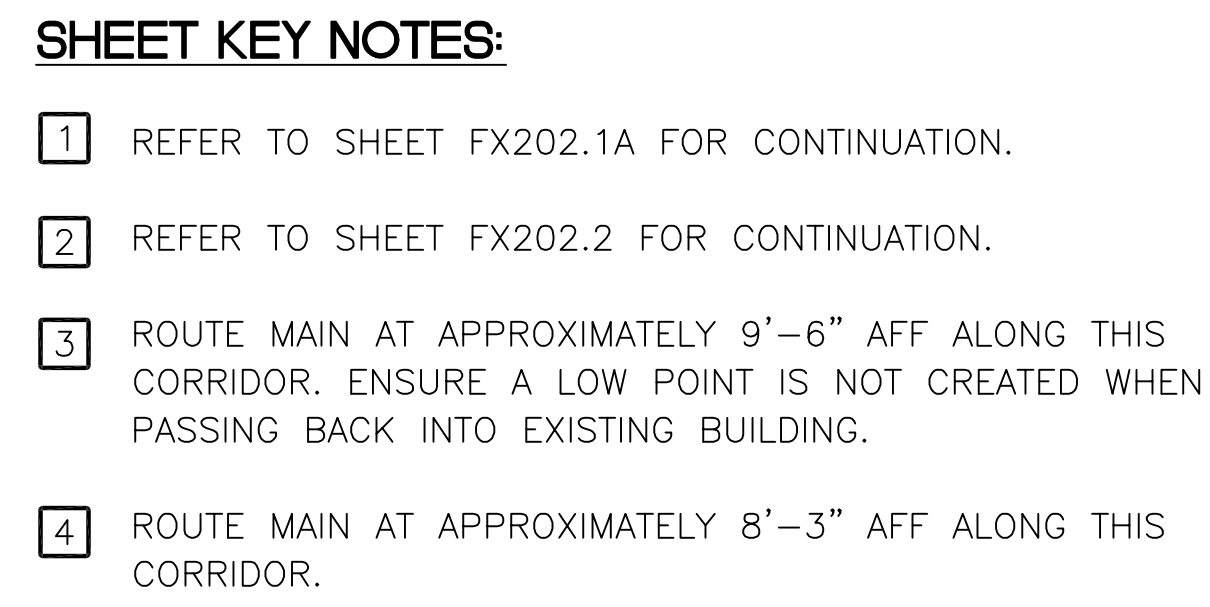
- 1 REFER TO SHEET FX202.1B FOR CONTINUATION.
- 2 EXISTING 6" STANDPIPE.
- 3 ROUTE NEW SPRINKLER MAIN IN SOFFIT WHEN CROSSING EXPANSION JOINT. COORDINATE WITH SHEET A2.2.1A.
- 4 PROVIDE AUXILIARY DRAIN AT LOW POINT WHERE NEW MAIN CROSSES THE EXPANSION JOINT. ROUTE DRAIN LINE TIGHT TO COLUMN LINE "LS". PIPE SHALL RUN TO EXISTING ROOF DRAIN. REFER TO SHEET FX102 CONTINUATION.
- 5 ROUTE MAIN TIGHT TO CORRIDOR WALL TO AVOID CONFLICTS WITH MECHANICAL DUCTWORK BETWEEN 8'-6" AND 8'-9" AFF.
- 6 THIS ELEMENT OF THE PROJECT HAS BEEN IDENTIFIED AS WORK TO BE INCLUDED IN DETAIL AS A BID ITEM. SEE SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS FOR A DETAILED LISTING OF THESE ITEMS AND THE ASSOCIATED SCOPES OF WORK.



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Management



			CONSULTANTS:		MILLER-REMICK LLC PROFESSIONAL ENGINEER		ARCHITECT / ENGINEERS:		Drawing Title FIRE SUPPRESSION 2ND FLOOR NEW WORK PLAN PHASE 1 - AREA A		Project Title RENOVATE AND EXPAND OPERATING ROOMS		Project Number 637-315		<div>Office of Construction and Facilities Management</div> <div> Department of Veterans Affairs</div>								
			 				  		Approved: Medical Center Director		Location CHARLES GEORGE VAMC ASHEVILLE, NC		Drawing Number FX202.1A										
<table><thead><tr><th>NO.</th><th>DESCRIPTION</th><th>DATE</th></tr></thead></table>			NO.	DESCRIPTION	DATE	TTE ENVIRONMENTAL, INC. 1283 NORTH CLARK STREET MOORESTOWN, NJ 08057		KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21046 410-760-0246 (B/L) 410-750-2866 (F/A) KA PROJECT NUMBER: M023-08		1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856) 624-0090 FAX: (856) 624-0052		PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23510 Phone: 757-471-0537 Fax: 757-471-4225 www.pfawrllc.com		<table><thead><tr><th>Date</th><th>Checked</th><th>Drawn</th></tr></thead><tbody><tr><td>11-18-2015</td><td>MHB</td><td>BWE</td></tr></tbody></table>			Date	Checked	Drawn	11-18-2015	MHB	BWE	
NO.	DESCRIPTION	DATE																					
Date	Checked	Drawn																					
11-18-2015	MHB	BWE																					



KEY PLAN

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

PROJECT LIMITS / PHASE

PARTIAL BUILDING FOOTPRINT

STAIRS

1A

1B

2A

2B

ELEVATORS

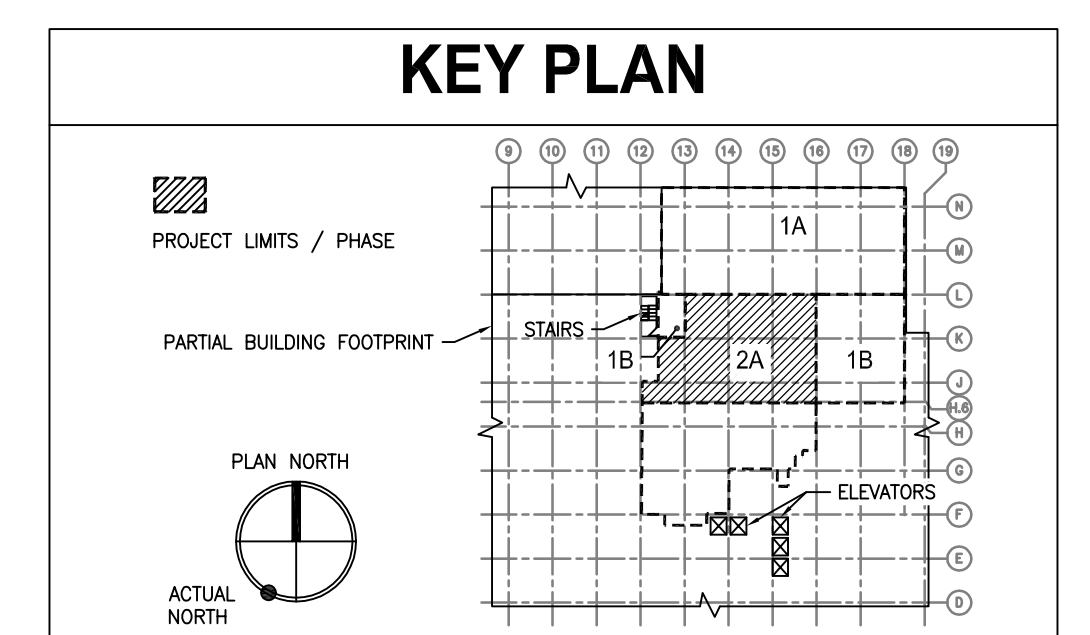
PLAN NORTH

ACTUAL NORTH

Office of
Construction
and Facilities
Management

1. PROVIDE NEW SPRINKLERS, PIPING, AND ASSOCIATED COMPONENTS THROUGHOUT SPRINKLER ZONE 10A TO COINCIDE WITH SMOKE ZONE. REFER TO SHEET LS102.2 FOR MORE INFORMATION.
2. COORDINATE ROUTING OF ALL NEW SPRINKLER PIPE WITH OTHER TRADES. DO NOT BLOCK ACCESS TO EQUIPMENT LOCATED ABOVE THE CEILING WITHIN THE OR SUITE.




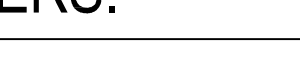
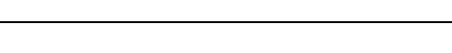
- 1 REFER TO SHEET FX102 FOR CONTINUATION.
- 2 EXISTING 6" STANDPIPE.
- 3 REFER TO SHEET FX202.1A FOR CONTINUATION.
- 4 REFER TO SHEET FX202.1B FOR CONTINUATION.
- 5 ROUTE MAIN AT APPROXIMATELY 8'-3" AFF.

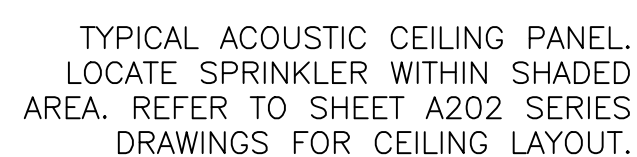
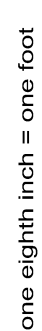


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Management

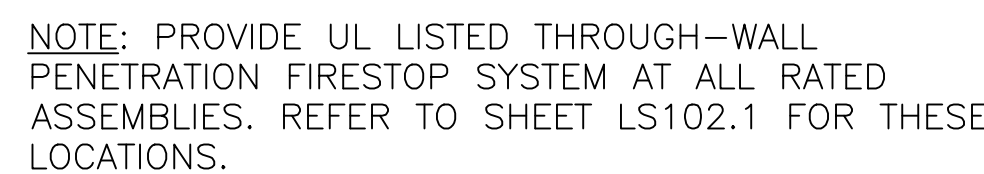
**Department of
Veterans Affairs**

① FIRE SUPPRESSION - 2ND FLOOR NEW WORK PLAN - PHASE 2
1/4" = 1'-0"

			CONSULTANTS:			ARCHITECT / ENGINEERS:			DRAWING TITLE			PROJECT TITLE			PROJECT NUMBER			Office of Construction and Facilities Management					
			 			  			PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23510 Phone: 757-471-0537 Fax: 757-471-4205 www.pfa-architect.com			FIRE SUPPRESSION 2ND FLOOR NEW WORK PLAN PHASE 2			RENOVATE AND EXPAND OPERATING ROOMS						637-315		
			TTE ENVIRONMENTAL, INC. 1253 NORTH CLARK STREET MOORESTOWN, NJ 08057			MILLER-REMIK LLC PROFESSIONAL ENGINEER						Approved: Medical Center Director			Location CHARLES GEORGE VAMC ASHEVILLE, NC						Drawing Number 47		
NO. DESCRIPTION DATE			8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21045 410-792-2268 (BAK) 410-792-2588 (PAV) KA PROJECT NUMBER: M023-08									Date 11-18-2015			Checked MHB Drawn BWE						FX202.2		



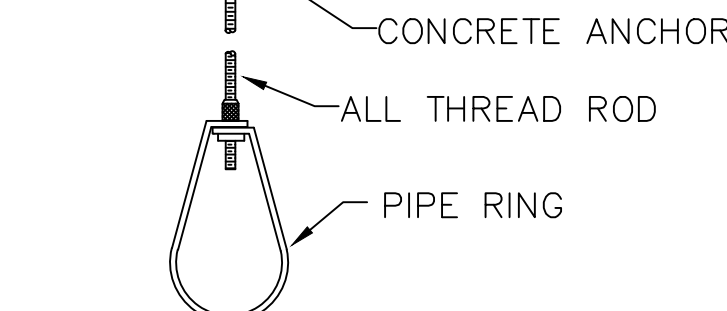
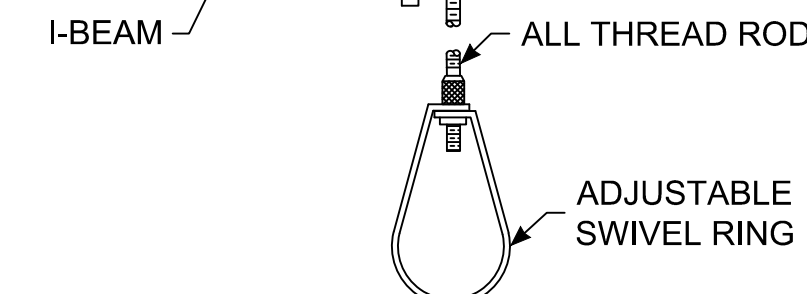
① SPR
N.T.S.



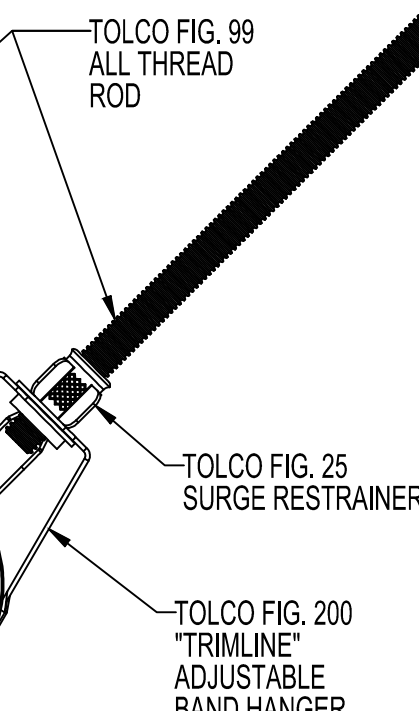
FILL MATERIAL: SEALANT - FILL MATERIAL (NOT SHOWN).
APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH
SURFACES OF WALL. BEAD OF FILL MATERIAL SHALL
ALSO BE APPLIED AT THE PIPE/WALL INTERFACE.

② — $\frac{\text{TYP}}{\text{N.T.S.}}$

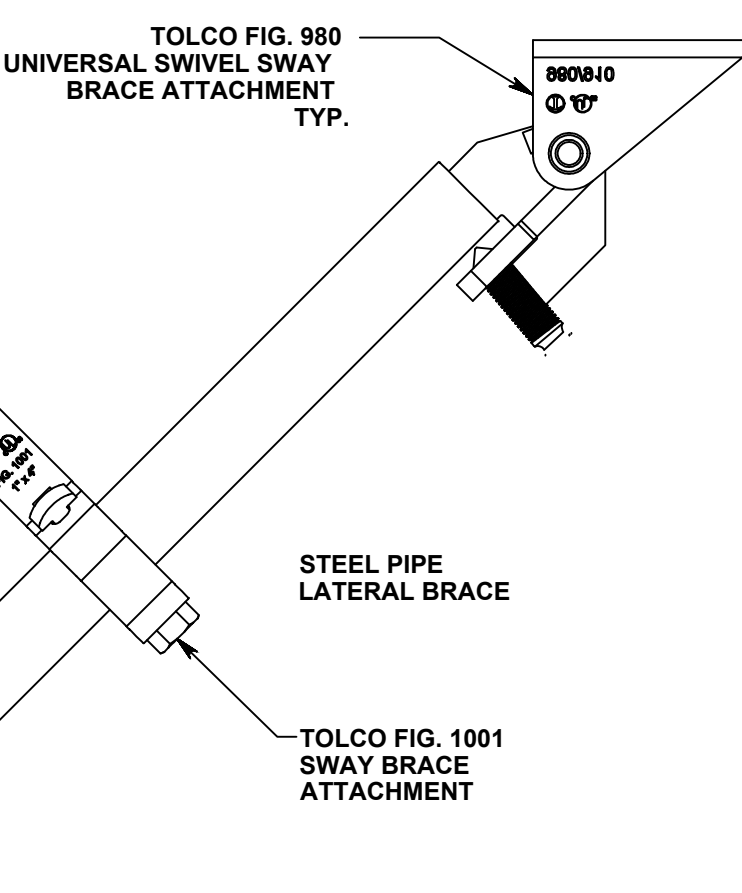
DIAMETER	1" 12'-0"	2" 15'-0"
	1 $\frac{1}{4}$ " 12'-0"	2 $\frac{1}{2}$ " 15'-0"
	1 $\frac{1}{2}$ " 15'-0"	$\geq 3"$ 15'-0"



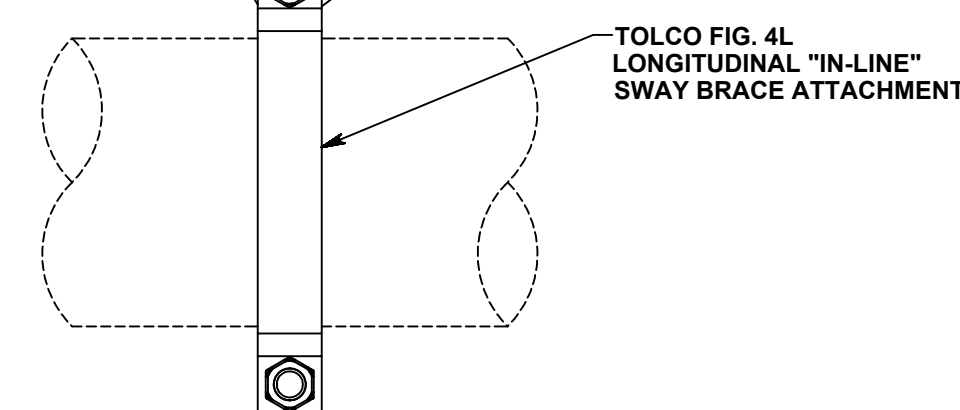
③ $\frac{1}{2} \frac{YF}{N.T.S}$



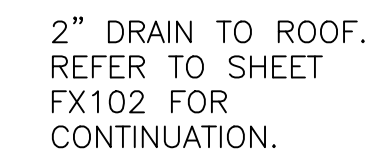
⑤ — TYP
N.T.S.



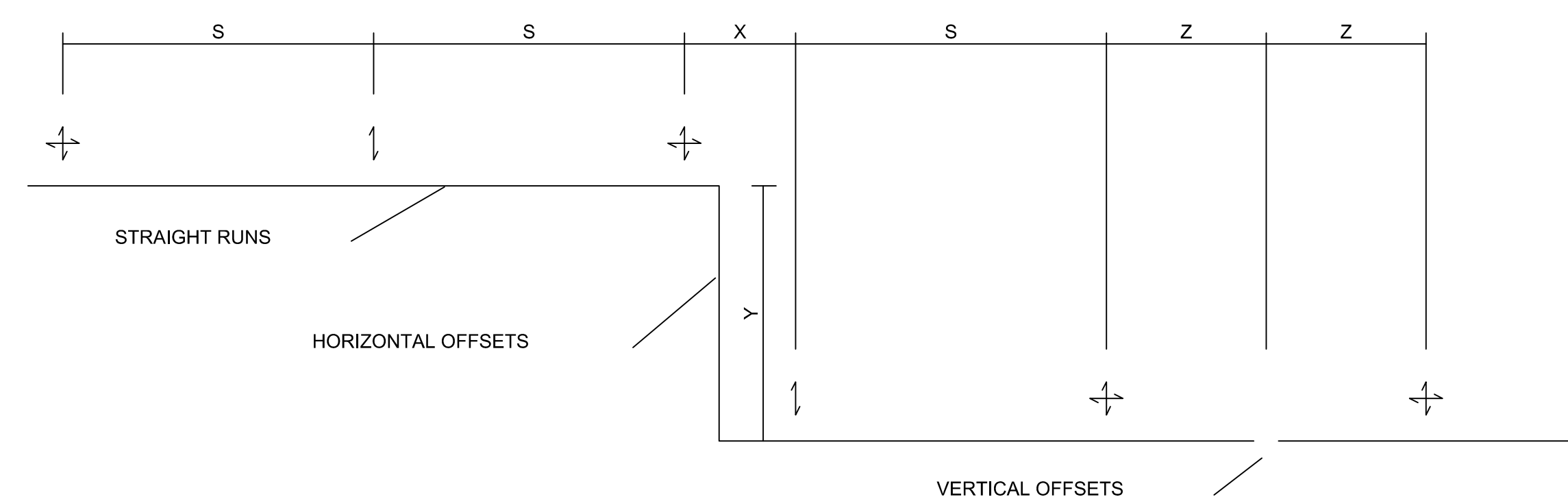
⑥ — TYPE
N.T.S.



⑦ — $\frac{\text{TYP}}{\text{N.T.S.}}$



④ $\frac{NE}{N.T.S.}$



— = LONGITUDINAL SWAY BRACE

= LONGITUDINAL SWAY BRACE

= 4-WAY (TRANSVERSE & LONGITUDINAL) SWAY BRACE

= TRANSVERSE (LATERAL) SWAY BRACE

BRACED COMPONENT DESCRIPTION	MAX. "S"	MAX. "X" + "Y"
2 1/2" AND LARGER SINGLE HANGER CONDUIT	40'	40'
TRAPEZE SUPPORTED EQUIPMENT	40'	40'

⑧ $\frac{SVW}{N.T.S}$

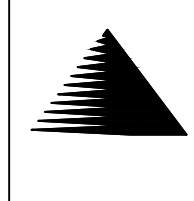
CONSULTANTS:



TTI ENVIRONMENTAL, INC.
1253 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

MILLER-REMICK LLC
PROFESSIONAL ENGINEERS

ARCHITECT / ENGINEERS:



Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned
Small Business
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Norfolk, VA 23510
Phone: 757-471-0537
Fax: 757-471-4205
www.pfa-architect.com

Drawing Title	FIRE SUPPRESSION DETAILS
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Approved: Medical Center
Director

Project Title	RENOVATE AND EXPAND OPERATING ROOMS
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Location	CHARLES GEORGE VAMC ASHEVILLE NC
----------	-------------------------------------

Project Number	637-315
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Building Number
47

FX501

Office of
Construction
and Facilities
Management



**BID DOCUMENTS
FULLY SPRINKLERED**

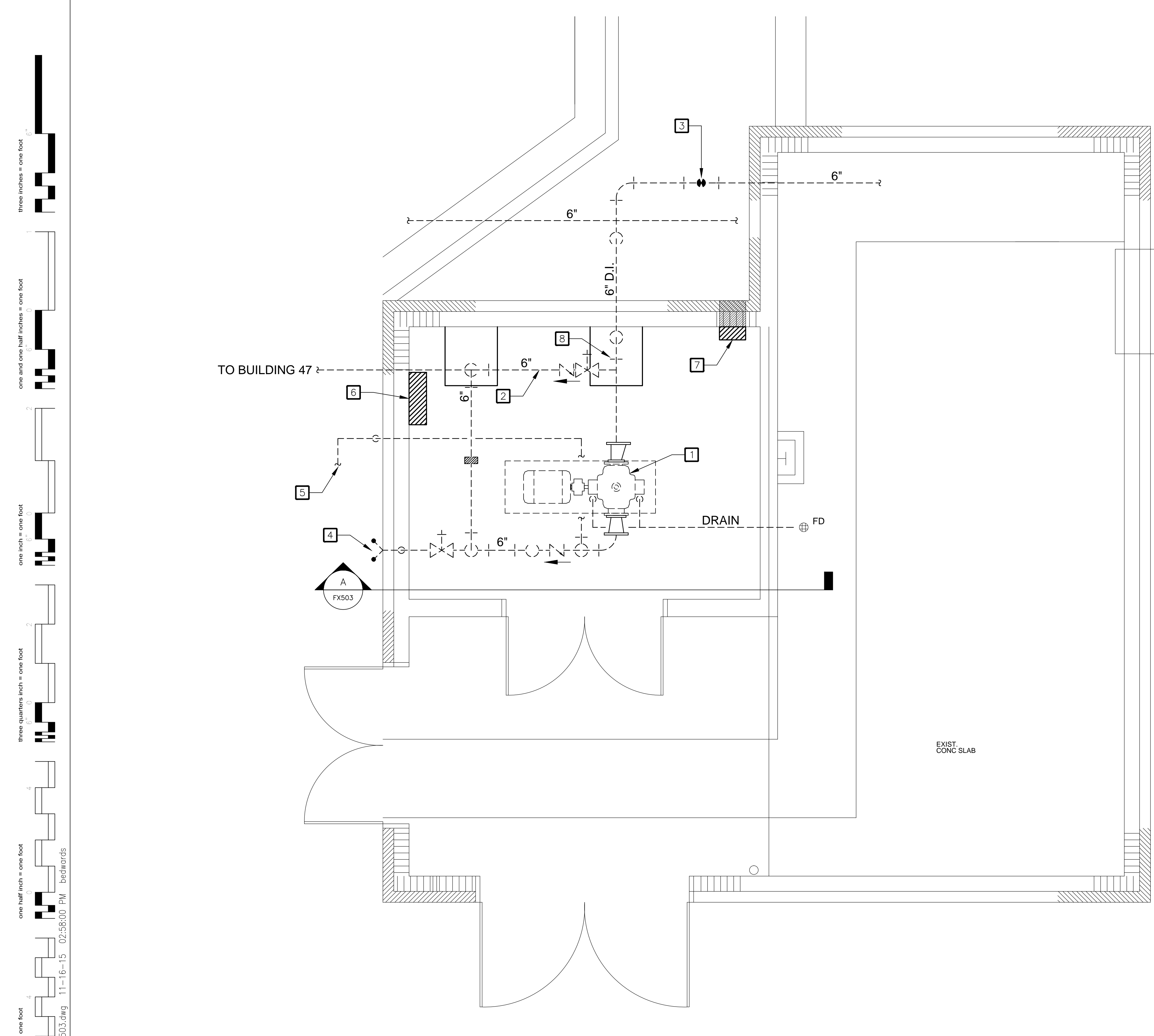
1. SITE PLAN SHOWN FOR REFERENCE ONLY.
2. REFER TO SHEET FX503 FOR EXISTING FIRE PUMP DETAILS.

1 REFER TO SHEET FX10B FOR CONTINUATION.

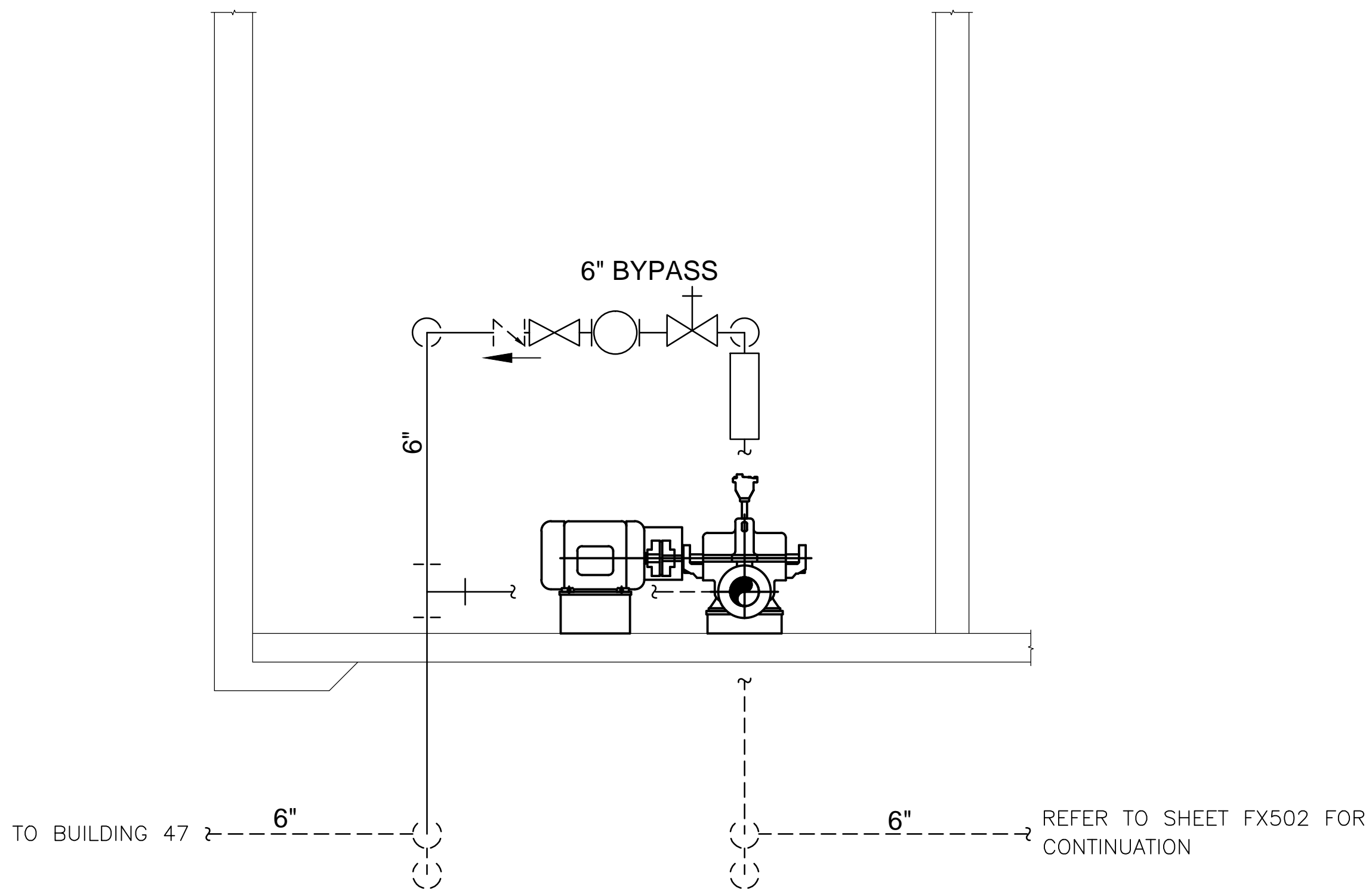
[illegible]

one eighth inch = one foot
one quarter inch = one foot
one half inch = one foot
one inch = one foot
three eighths inch = one foot
three quarters inch = one foot
one and one half inches = one foot
three inches = one foot

VA FORM 08-6231
11-18-15 02:58:00 PM bedwards
J:\00 Projects\J - R\W023 Miller-Remick\W023-08 VAMC Asheville ORs - Sprinkler Design\Drawg\FX-503.dwg



① FIRE PUMP DETAIL
SCALE: 1/2"=1'-0"



② SECTION A-A
SCALE: 1/2"=1'-0"

DETAIL 1 KEY NOTES:

- ① EXISTING ITT-AC MODEL 6X4X12FM ELECTRIC-DRIVE FIRE PUMP, RATED FOR 500 GPM AT 65 PSI.
- ② PUMP BY-PASS LINE.
- ③ EXISTING POST INDICATOR VALVE (PIV).
- ④ EXISTING 2"x2½" FIRE PUMP TEST HEADER.
- ⑤ DRAIN LINE.
- ⑥ FIRE PUMP CONTROLLER.
- ⑦ JOCKEY PUMP CONTROLLER.
- ⑧ 6" AMES 5000SS VERTICAL DOUBLE CHECK BACKFLOW PREVENTER.

NO.	DESCRIPTION	DATE

CONSULTANTS:

Since 1985

TII

Environmental, Inc.

TII ENVIRONMENTAL, INC.
1251 NORTH CHURCH STREET
MOORESTOWN, NJ 08057

KOFFEL

Fire Protection ENGINEERS® ASSOCIATES

8815 CENTRE PARK DRIVE, SUITE 200 COLUMBIA, MD 21045
410-750-2286 (BALT) 410-750-2588 (FAX)
KA PROJECT NUMBER: M023-08

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ARCHITECT / ENGINEERS:

Miller-Remick LLC

M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business

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FAX: (856) 429-5002

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Drawing Title
FIRE SUPPRESSION DETAILS

Approved: Medical Center Director

Project Title
RENOVATE AND EXPAND OPERATING ROOMS

Location CHARLES GEORGE VAMC ASHEVILLE, NC

Date 11-18-2015

Checked MHB

Drawn BWE

Project Number
637-315

Building Number
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Drawing Number
FX503

**BID DOCUMENTS
FULLY SPRINKLERED**

Office of Construction and Facilities Management

Department of Veterans Affairs